both in the ilium and the left greater trochanter (Figure 5).

This case has been reported because of the pneumonic manifestations associated with extensive osseous lesions characteristic of eosinophilic granuloma.

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REFERENCES

1. Currens, J. H., and Popp, W. C.: Xanthomatosis (Hand-Schüller-Christian type). A report of a case with pulmonary fibrosis, Am. J. Med. Sciences, 205:780-785 (June), 1943.

2. Green, W. T., and Farber, S.: "Eosinophilic or solitary granuloma" of bone, Bone & Joint Surg., 30:499-526 (July), 1942.

3. Imler, A. E.: Reticulo-endotheliosis with report of two cases, Am. Journal Roentgenol. & Radium Therapy, 56: 343-349 (Sept.), 1946.

4. Jaffe, H. L., and Lichtenstein, L.: Eosinophilic granuloma of bone, Arch. Pathol., 37:99-118 (Feb.), 1944.

5. Jaffe, H. L., and Lichtenstein, L.: Eosinophilic granuloma of bone, Am. J. Pathol., 16:595-604 (Sept.), 1940.

6. Otani, S., and Ehrlich, J. C.: Solitary granuloma of bone simulating primary neoplasm, Am. J. Pathol., 16:479-490 (July), 1940.

7. Rowland, Russell S.: Xanthomatosis and reticulo-endothelial system, Arch. Int. Med., 42:611-674 (Nov.), 1928.

8. Sosman, M. C.: Xanthomatosis (Schüller's disease, Christian's syndrome), Am. J. Roentgenol. & Radium Therapy, 23:581-597 (June), 1930.

Dissecting Aneurysm

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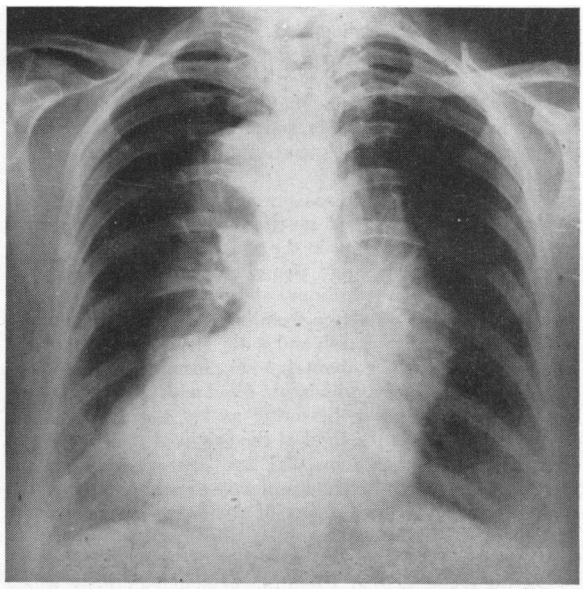
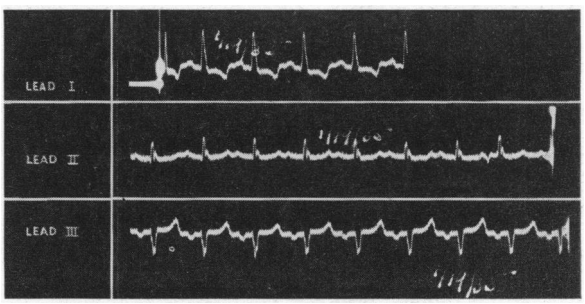
DISSECTING aneurysm of the aorta rivals syphilis in the number and variety of disease entities which it may simulate, and with which it may be confused. It occurs more frequently in men than in women, and usually in patients with preexisting hypertension. Erdheim's medial necrosis is the primary lesion in some cases, and dissection results by virtue of hematoma formations within the wall of the aorta. Primary rupture of the intima and subsequent dissection of the media also occur in the absence of preexisting medial necrosis.

The diagnosis is made by the location of the pain, which is often excruciating. It frequently resembles distress in the chest produced by coronary thrombosis, but does not radiate to the arm. It does tend to radiate to the back, between the scapulae, and sometimes to the neck and head, lower back and legs. It may be throbbing in character and intermittent. The physical findings are variable. The blood pressure does not drop, unless the patient develops the signs and symptoms of shock. The sudden development of a diastolic murmur of aortic insufficiency accompanied by the increased pulse pressure may appear. Roentgenography and fluoroscopy of the chest are most helpful, showing a widening of the aorta, especially in the oblique view. The electrocardiogram does not change materially. The Wassermann reaction, when positive, serves more often than not to confuse the diagnosis. The prognosis is somewhat better than in the case of coronary thrombosis if outcome is not immediately fatal. The treatment consists of rest in bed during the acute stage with repeated doses of morphine.

CASE REPORT

The patient, a woman aged 71 years, on October 15, 1934, ate half a watermelon and a whole chicken at one meal. She awoke the next morning in a clammy sweat with severe sharp pain in the upper left thoracic region posteriorly. Heart sounds were regular but distant. The blood pressure was 112 mm. systolic and 76 mm. diastolic; three days later it was 202 mm. systolic and 112 mm. diastolic. Urinalysis showed 2 plus albumin with hyaline and granular casts. The Wassermann reaction was positive. On October 23 erythrocytes numbered 4,080,000, with hemoglobin 57 per cent, and leukocytes numbered 8,950. The non-protein nitrogen on October 17 was 43.8 mg. per 100 cc., and on October 21 was 65.3 mg. per 100 cc. The blood sugar on October 17 was 160.0 mg. per 100 cc. and on October 21 was 85.4 mg. per 100 cc. Later determinations of the blood sugar were persistently high. On November 20, a roentgenogram showed a large aneurysm of the ascending aorta and of the arch of the aorta present with enlargement of the heart (Figure 1). An electrocardiogram showed inverted T1 (Figure 2). The non-protein nitrogen remained elevated. Much pus appeared in the urine on February 12 with accompanying rise of temperature, pain and tenderness in the right side of the abdomen. Vomiting was severe. A mass was felt by bimanual examination in the right lower quadrant of the abdomen.





A hemorrhagic ovarian cyst was the diagnosis. The leukocyte count was elevated to 16,900 with 89 per cent polymorphonuclear cells, of which 55 per cent were early forms. Vomiting persisted. Edema appeared. The patient became more and more stuporous and finally died March 8, 1935. Through the course of the illness, there was some precordial distress but none as severe as at the time of the onset.

Anatomical diagnosis*: healing dissecting aneurysm of aorta; medial necrosis idiopathica cystica of Erdheim; high grade atherosclerosis of aorta and major branches; benign nephrosclerosis; generalized arteriolarsclerosis (hypertension); marked hypertrophy and dilatation of heart; obliterative fibrous pericarditis; generalized passive congestion; anasarca moderate; high grade cerebral sclerosis; softening in left parietal cortex and in right lobe of cerebellum; chronic

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periappendiceal abscess well walled-off; purpuric hemorrhages in skin; atrophy of thyroid; obesity chiefly girdle type in distribution; diverticulum of sigmoid; steatosis of pancreas; small area of necrosis in pancreas (vascular in origin); chronic cystitis and pyelonephritis; cyst of right ovary; fatty infiltration of liver.

The heart was markedly enlarged and measured in the fixed specimen 12 cm. across and 13 cm. in length. The apex was formed exclusively by the left ventricle. There was considerable dilatation of all the chambers. The valves were free from change. Congenital defects were absent. The pulmonary and aortic orifices were markedly dilated. There was no evidence of fibrosis in any part of the organ, nor was any fresh necrosis seen. The left ventricle muscle was profoundly hypertrophied and measured from 15 mm. at the apex to 25 mm. at the base. The right ventricle muscle was only 3 to 4 mm. There was a large amount of fat in the epicardium, which extended somewhat into the muscle. The coronary vessels were very large, the left main coronary showing a lumen fully 6 mm. in diameter, and the major trunks were hypertrophied, consistent with the size of the heart. There were a few calcified plaques and a diffuse stiffening but no evidence of any encroachment upon the lumen, and no thrombosis was present.

Of particular interest was the aorta. The ascending portion and the arch showed much dilatation, and a baseball easily could have been put in the pocket just above the aortic valve. The intima, however, was glistening and smooth, and there were none of the ordinary signs of lues in this portion. The aortic leaflets were free from involvement and were soft and pliable. Just at the arch and to the right was a sacculated portion with an orifice about 4x4 cm., forming a mass about the size of half an egg, which was filled with organized blood clot. A smaller, similar dissecting pocket was noted on the posterior wall about the level of the origin of the innominate artery, forming a sac about 2x1 cm. The edges of both of these pockets were rolled and perfectly smooth and glistening and almost of the consistency of cartilage. Just above the left leaflet of the aortic valve was a third pocket showing dissection with pocket formation within the wall of the aorta, measuring about 2x2 cm. From this extended a crevice where the intima had obviously been separated and the defect filled in with a pink or white scar tissue, extending upward for a distance of about 8 cm., and from this similar evidence of old tears extended into the two pockets just described. The intima above these was smooth and glistening, and there was practically no plaque formation. There were numerous atheromatous and hyaline plaques at the arch and particularly at a point just below the arch, where an egg-shaped saccular aneurysm about 2 cm. deep was found. This measured about 5 cm. in diameter, the wall was thin, and the surface was covered by organized thrombus. Calcium plaque formation was found in this portion. Evidence of old laceration of the intima extended transversely and practically around the aorta at this level. Below this the aorta was diffusely dilated, tortuous, showing some longitudinal wrinkling, but primarily large yellow and hyaline plaques with small areas of calcification. Below the diaphragm there was profound tortuosity and not much dilatation. The major branches showed also profound tortuosity, marked plaque formation, and some calcification. The circumference at the extreme arch was about 9 cm. and at the diaphragm 7 cm.

COMMENT

Taylor and Morehead discussed the rupture of the aorta which occurs without the formation of a dissecting aneurysm. This occurs more frequently than is usually realized. Ash suggests that the study of the circulatory changes in the right arm with the observation of superior mediastinal obstruction and absence of pulse in the right carotid and right subclavian arteries leads to the correct diagnosis and localization of the lesion. Wainwright comments on the present-day tendency to diagnose as coronary thrombosis all conditions even remotely simulating it. Such a condition might well be a dissecting aneurysm. He reports an instance of coronary dissection resulting in occlusion of the vessel with a diagnosis of dissecting aneurysm before death. Ritvo and Votta commented on the value, in establishing the diagnosis, of roentgen studies showing increase in the width of the shadow of the aorta, cardiac hypertrophy, pericardial effusion and fluid in the pleural space. Leonard stated that the dictum was that "dissecting aneurysms caused by trauma are rare" but he presents a case of a patient who had one following an automobile accident. He said that the diagnosis of dissecting aneurysm must be differentiated between coronary thrombosis, perforated peptic ulcer, and acute pleurisy. Blain, Glynn and Hiratzka state that dissecting aneurysm of the abdominal aorta may, by involving one or both renal arteries, produce a urologic syndrome simulating acute nephrolithiasis or other urinary disorder. Sacks showed electrocardiogram changes seriatim, showing the possibility of great diagnostic value in the T-wave changes. Giles reported the case of a patient with a dissecting aneurysm of the femoral artery of undetermined cause, but with unusual symptoms, in which a cure was effected by ligation and a Matas aneurysmorrhaphy. Kinney, Sylvester, and Levine present a report of a case of coarctation of an aorta with a dissecting aneurysm in a 23-year-old pregnant white woman which was diagnosed before death. Henley and Gariepy report a case of dissecting aneurysm of the thoracic aorta diagnosed during life and proved at autopsy.

SUMMARY

Dissecting aneurysm of the aorta simulates and is often confused with many other disease entities.

There is no single diagnostic guidepost which is conclusive, and there may be broad variations in combinations of signs.

The case of a patient in whom the disease was diagnosed ante mortem is reported, together with a detailed anatomical diagnosis by the pathologist.

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REFERENCES

1. Ash, Donald W.: Dissecting aneurysm of the aorta. Report of case with sharply defined localizing signs, Permanente Foundation Med. Bull., 2:139-142, 1944.

2. Blain, Alexander III, Glynn, Thomas P., and Hiratzka, T.: Dissecting aortic aneurysm involving a renal artery and simulating acute nephrolithiasis, J. Urol., 53:753-761, 1945.

3. Giles, Roscoe E.: A case report of dissecting aneurysm of the femoral artery of undetermined etiology and with unusual symptomatology, Military Surg., 97:460-462, 1945.

4. Henley, Paul G., and Gariepy, Louis J.: Case reports of dissecting aneurysm, J. of Mich. State Med. Soc., 45:1203-1213, 1946.

5. Kinney, Thomas D., Sylvester, R. Emerson, and Levine, Samuel A.: Coarctation and acute dissection of the aorta associated with pregnancy, Am. J. Med. Sciences, 210:725-732, 1945.

6. Leonard, Donald W.: Dissecting aneurysm of the thoracic aorta due to trauma, Am. J. Surg., 69:344-351, 1945.

7. Ritvo, Max and Votta, Paul J.: Clinical and roentgen manifestations of dissecting aneurysm of the aorta, Am. J. Roent., 52:583-594, 1944.

8. Sacks, David R.: Case report of dissecting aneurysm of the aorta with cardiac tamponade, Ann. Int. Med., 23:661-666, 1945.

9. Taylor, Frederick R., and Morehead, Robert P.: Spontaneous complete rupture of the aorta without dissecting aneurysm, with report of a case showing a new physical sign (periaortic friction rub), Ann. Int. Med., 21:81-100, 1944.

10. Wainwright, Charles W.: Dissecting aneurysm producing coronary occlusion by dissection of the coronary artery, Bull. Johns Hopkins Hosp., 75:81-94, 1944.